



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

Site:	
Break:	3/10
Order:	

MAY 15 1990

4WD-NSRB

Ms. Mary Jane Norville
King & Spalding
2500 Trust Company Tower
Atlanta, GA 30303

RE: Comments on Draft Remedial Investigation
Report for the Medley Farms Superfund Site

Dear Ms. Norville:

Five copies of the above referenced documents prepared by Sirrine Environmental Consultants (SEC) for the Potentially Responsible Parties (PRPs) were received by the Agency on March 30, 1990. As part of Superfund's review process, copies of these documents were transmitted to various programs within the Agency, the Agency of Toxic Substances and Disease Registry (ATSDR), EPA's oversight contractor, the Department of the Interior and the South Carolina Department of Health and Environmental Control (SCDHEC) for review and comments.

It is difficult, at this time, to provide a clear indication of the acceptability of the RI without a thorough review of the Risk Assessment and a meeting to discuss pertinent comments stated below on the draft Remedial Investigation (RI) report. The Risk Assessment provides the Agency with the PRPs interpretation of what the analytical data indicates. I would like to go ahead and arrange a meeting with the PRPs, SEC, SCDHEC, and EPA the week of May 28, 1990. Consequently, based on review of the Risk Assessment and the outcome of the meeting on the RI comments, the RI may need to be modified in addition to the comments provided below.

Below are the compiled comments I received from the reviewers. All comments need to be addressed by the PRPs. This can be accomplished by either incorporating the comment directly into the the text of the revised RI or by a written explanation as to why the PRPs do not feel the comment is appropriate or warranted.

I have organized the comments into two (2) categories: general/technical and editorial in nature. Within each category I listed the comments as they appeared in the text. Again, all comments and requested changes stated below need to be addressed by the PRPs.



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General/Technical Comments

1. Index, Oversized Figures: Although these oversized figures allow the identification of minute details, this size drawing is very awkward to handle as well as reproduce. It is imperative that these drawings be presented on paper no larger than 11" x 17" in the revised RI. The same holds true for the drawings accompanying the soil-gas survey, Appendix A.
2. Page 2, fourth paragraph: It is stated that seven monitor wells were installed, however, the work plan calls for eight. An explanation is needed for this discrepancy.
3. Page 4, sixth bullet: Visual observations made during the excavation of test pits may support this statement but the data provided by the soil borings does not imply such a dry and cut picture. Some of the higher level of contaminants in the soil borings were found at depths of 10-12 feet and 25-27 feet. Therefore, this conclusion needs to be modified to reflect the data from the soil borings.
4. Page 4, seventh bullet: The second sentence under this bullet is misleading. Without the benefit of a map identifying the placement of the monitor wells at the site, a person could interpret this statement to mean that contaminants are not migrating with groundwater. The next perimeter of monitor wells is approximately 600 and 1,200 feet further downgradient. This sentence needs to be rephrased.
5. Page 16: It is stated that on June 23, 1983, the South Carolina Department of Health and Environmental Control sampled private water supply wells in the area and detected trace levels of methylene chloride. The sampling study should be duplicated to insure that human health is protected.
6. Page 17, Figure 2.4: A sentence or paragraph needs to be incorporated into the text stating how the results of the NUS electromagnetic survey compare with the aerial photo provided by SCDHEC.
7. Page 18, third paragraph: A figure should be included or referenced showing the location of these two borings. A sentence or two needs to be included addressing the construction material of this well.
8. Page 20, top of page, first sentence: This sentence states that the Sprouse well appears to be upgradient of the Medley Farm site. Since it not clear as to which well is upgradient in terms of groundwater flow, the actual gradient between the two well is probably minimal. If this is the case, then is feasible that the use of the Sprouse well created a flow regime in an easterly direction.
9. Page 30, Sections 3.2.2 and 3.2.3: A detailed description of any remnants of the disposal activities found in the test pits should be included in this section without having the reader refer to Appendix B.

10. Page 34, Section 3.3.2: Steam cleaning only for drilling equipment and well materials is not a completely acceptable practice for decontamination. This point was acknowledged by SEC. As can be seen from the analytical data in Appendix I, several compounds and analytes detected in the samples showed up in the analyses of the drilling equipment blanks. Since these compounds and analytes were found in the samples, any attempt to pass their presence off as decontamination or laboratory artifacts is not acceptable. Therefore, these contaminants are considered contaminants of the site. Additional sampling/analyses could be conducted to confirm the presence or absence of these "contaminants" using approved procedures.
11. Page 37, Section 3.4.2: The exact decontamination procedure used should be restated here. The POP (January 1989) was never changed to reflect the use of organic-free water after the solvent rinse. If no organic-free water was available, the equipment should have been allowed to air dry as long as possible.
12. Page 40, top of the page, first sentence: A more thorough explanation as to why an aquifer test was not performed needs to be included.
13. Page 41, second paragraph, second sentence: The following phrase is confusing "Where water levels extend above the bottom of the screened or open hole..." .
14. Page 42, Section 3.6: The data obtained from the stream gauging and water level comparisons needs to be included in the revised RI.
15. Page 46, Section 3.8.1 Objectives, first and second sentences: The technical rationale as to why these wells were selected for full analyses needs to be incorporated in this paragraph.
16. Page 47, Section 3.8.2. and 3.8.3: The "proper" decontamination procedure that was used for the Teflon bailers should be restated (see comment 11).
17. Page 48, Section 3.9.1 Objectives: The rationale, beyond stating that is was not called for in the work plan, as to why only Jones Creek was sampled and not the other surface streams needs to be incorporated into this paragraph.
18. Page 50, Section 4.2 Hydrogeology, first paragraph, first sentence: This is the first mention of a piezometer, as the work plan does not reference the installation of one. The technical rationale as to why a piezometer was installed needs to be incorporated in this paragraph.
19. Page 50, Section 4.2 Hydrogeology, second paragraph, first sentence: More supporting data needs to be incorporated to support the statement "...a dual aquifer system exists in the Piedmont Province and is the condition in some areas of the Medley Farm site".

20. Page 50, Section 4.2 Hydrogeology: Somewhere in this section both aquifers, the saprolite and the bedrock, need to be classified under both EPA and the State's groundwater classification systems. Definitions on these classifications also need to be incorporated into the text.
21. Page 50, Section 4.2 Hydrogeology: Somewhere in this section, both the horizontal and vertical flow velocities for the groundwater in the saprolite and the bedrock aquifers need to be calculated. This data will allow a rough estimate to be made with respect to the time required for the plume to reach its reported discharge points, the surrounding creeks.
22. Site Hydrogeological Conditions: The seven wells at four locations do not provide sufficient information to address the RI objectives. Site specific conditions warrant that additional geological and hydrogeological characterization be conducted in a Phase II RI. These conditions include the complex geology (saprolite and fractured bedrock), surface area (7+ acres), the multiple source areas, and the potential for radial flow. The concern has been raised in previous SCDHEC memorandums on the RI work plan, in meetings with the potential responsible parties' contractor, and in the monitoring well approval dated June 9, 1989 that the numbers and locations of wells would not provide sufficient hydrogeological information.

A more comprehensive characterization of the site's hydrogeological condition should be made in order to determine the nature and extent of groundwater contamination. The collection of data is important for an efficient remediation design and the evaluation of the selected remedy. The EPA Office of Emergency and Remedial Response titled "Evaluation of Ground-Water Extraction Remedies" dated September 1989 and Jonathan Z. Canon (EPA-Acting Assistant Administrator) memorandum "Consideration in Ground Water Remediation at Superfund Sites" dated October 18, 1989 indicate that data collection is usually not sufficient to fully assess contaminant movement and to evaluate groundwater remediation at Superfund sites. These documents encourage the collection of adequate geological and hydrogeological data to design, assess, and evaluate remediation.

23. A groundwater sampling schedule needs to be developed. The groundwater quality data should be used to assess and evaluate remedial activities.
24. The report describes an adequate initial site characterization, however, there should be another phase of monitoring well installation in order to fully characterize the vertical and horizontal extent of ground water contamination. Specifically, deep bedrock wells should be placed in the area of SW3, SW4 and BW2 to define the vertical extent of contamination. Additional downgradient wells should be installed to determine the southeastward (horizontal) extent of contamination. Characterization of upgradient ground water contamination should be considered, however, a concern with installation of upgradient wells

is the potential of drilling through contaminated soils and creating vertical pathways for contaminant migration to the aquifer system. Further discussions on the necessity of upgradient wells is warranted.

25. Was sufficient data generated as part of the RI to calculate the total volume of contaminated groundwater at the site?
26. The Phase I study verified that a contaminant plume exists in the aquifer beneath the site. A Phase II study may be necessary to establish the extent of aquifer contamination.
27. Page 55, first paragraph: A figure showing topographic features and the groundwater flow regime (i.e., gradients) needs to be included.
28. Page 55, second paragraph, last sentence: The meaning on this sentence is vague. If there is no downward flow potential into the bedrock aquifer, then what is the explanation for the contamination found in BW2.
29. Page 55, second paragraph, last sentence: There appears to be insufficient data to make the statement "...the data indicate that no downward flow potential into the bedrock aquifer occurs immediately underlying the former waste disposal areas.". The well clusters (SW1/BW1 and PZ1/BW3) monitoring the saprolite and bedrock used for water level comparisons between the aquifers are not located near the former waste disposal areas. If the two wells (SW3 and SW4) located near the former waste disposal areas were clustered with bedrock wells near them, then the downward flow potential and more importantly the water quality in the bedrock aquifer underlying the former waste disposal areas could be addressed.
30. Page 56, Table 5.3: Acetone levels were left out for SB-6. Table 5.3 should correspond to Table I-3.
31. Page 57, Table 4.2: According to pages 41 and 42, Section 3.5.3, the K (hydraulic conductivity) value is calculated using the formula on page 41. The values in the formula do not correlate with Table 4.2 parameters. Table 4.2 has no legend explaining parameters or explaining modified Bouwer-Rice method.
32. Page 63, Section 5.2: All of the wells installed during Phase IA should have been sampled and analyzed for the TCL/TAL parameters. The rationale for sampling only four wells needs to be incorporated in this section.
33. Page 63, Section 5.2: It is stated in this section that PCB Aroclor-1254 was detected at low levels, but Aroclor-1254 was detected at 5,379 ug/kg in TP2.
34. Page 71, Section 5.4.1: An explanation needs to be provided as to why the test pit equipment blank (rinsate) from Phase IA (TP5-1D) was analyzed only for VOAs and not the full TCL/TAL parameters.

35. Page 71, Section 5.4.1: The data presented in this section also needs to be presented in table form. Tables are easier to read and decipher.
36. Page 72, first paragraph: Some discussion on comparing the level of inorganics found on-site versus background needs to be incorporated into this paragraph.
37. Page 72, Section 5.4.1 and Table 5.4, Page 73: The use of published referenced materials for comparison of background levels of contaminants is not an acceptable approach. Since these published levels are not site specific they do not compare or indicate background level of contaminants and as such are not acceptable in this document.
38. Page 73, Table 5.4: Two errors were identified. First, the level for TP7 Al 13,200 (b) does not correspond to Table I-1. TP7-1 for Al which is 12,200 E [E has the same meaning as (b)]. Secondly, the (b) is missing from TP7, Fe 10,300: Table I-1 states this is value TP7-1. Iron should be 10,300 E.
39. Page 74, Section 5.4.2: What was the rationale for not analyzing for VOC for samples collected from soil boring one (SB1)?
40. Page 74, Section 5.4.2: The background soil boring (SB1) and all the QA/QC samples should have been sampled for the full TCL/TAL parameters. There appears that there was a problem with the decontamination procedure for soil boring equipment. As can be seen from the analytical data in Appendix I, low levels of acetone and chloroform were detected in equipment blank SB5-S2D and low levels of chloroform was detected in equipment blank SB10-S1D. It also appears that there was a combined field/decontamination and laboratory procedure problem. The field blank SB2-S3B had low levels of chloroform and methylene chloride detected, the trip blanks SB4-S3C and SB5-S1C had low levels of acetone detected. The decontamination procedures for the drilling and soil sampling equipment should be restated here.
41. Page 75, Section 5.4.2 and Table 5.5, page 76: Refer to comment #37.
42. Page 75, second paragraph: An explanation needs to be incorporated explaining why the levels of cadmium in background samples are above typical regional values.
43. Page 76, Table 5.5: The value of SB1-S5 for chromium, 2.1, does not correspond to Table I-1, SB1-S5 for Chromium which is 2.1 B. This B would as (a) in Table 5.5 [should be 2.1 (a)].
44. Page 77, Section 5.5.1: The total VOC for SB6 at 5-7 feet is 77 not 6 and the total VOC for SB4 at 15-17 feet depth is 4330, not 3932 according to Table I-3.

45. Page 77, Section 5.5.1: Acetone was also seen in SB6.
46. Page 79, Section 5.5.1, first paragraph, third sentence: Change this sentence to read "These metals occur naturally in groundwater and concentrations must be compared with measured site specific background levels for evaluation."
47. Page 80, Table 5.7: The groundwater results of several inorganics were left out of this table for SW1 (the reportedly background well. They are As, Cd, Co, Cu, Sb, and Vn. The detected arsenic (65.6 ug/l and chromium (97.8 ug/l) levels exceed the current MCL for drinking water (both 50 ug/l).
48. Page 81, Table 5.8: BW1 (background) for MG - 2,750 and Zn - 5.1 does not correspond with Table I-5. If Table I-5 is correct, Table 5.8 should be Mg - BDL^b and Zn - BDL^b.
49. Page 84, Table 5.9: Discrepancies between Table 5.9 and analytical results, respectively: 1) 1A Test Pit, Inorganics, Sample Rinsate 1 vs. 0; 2) 1B, Soil Borings, Volatile Organics, Field Duplicate 2 vs. 1; 3) 1B, Soil Borings, Volatile Organics, field Samples 27 vs. 25; 4) 1B, Soil Borings, Semi-volatile Organics, Sample Rinsate 2 vs. 1.
50. Page 85, Section 6.2: Is there sufficient data to determine the volume of contaminated soil? Or will this be calculated as part of the Feasibility Study after the Risk Assessment is completed?
51. Page 85, Section 6.2: It is stated that PCB was related to former agricultural use of the property and therefore are not of concern. This statement is not substantiated by the information presented in the draft RI.
52. Page 85, last paragraph: This paragraph infers that the PCB contaminants found on site are the result of former agricultural use of the site. What range of PCBs could be expected in the soil as the result of the using PCBs in the application of insecticide? Reference the source of this information. How come the Site History does not discuss the use of the site for agricultural purposes?
53. Page 88, Section 6.3 Stream Sediment/Surface Water: A figure needs to be incorporated into the text similar to Figure 6.1, showing sampling locations and indicating no contaminants were found.
54. Page 88, Section 6.4: The statement that the horizontal extent of groundwater contamination appears limited is not substantiated by this document. A Phase-II is needed to determine the actual horizontal extent of groundwater contamination.
55. Page 88, Section 6.4 Ground Water: Refer to comment number 53.
56. Page 88, Section 6.4 Ground Water, second paragraph: The mechanisms highlighted in this paragraph do minimize the transport of contaminants from soils to the groundwater. However, the analytical

data clearly shows that site related contaminants have already impacted the underlying aquifers. The next question to be answered is to what extent will the aquifers be impacted? This question needs to be addressed in the Risk Assessment.

57. SCDHEC believes that an additional Phase-II investigation will be required to adequately define the area of contaminated soil and the groundwater plume. Phase-I does not set a definite boundary on the extent of contamination, since all the wells in the immediate area of the site (BW2, SW3, and SW4) showed contamination and the area nearest the Medley house showed contamination in all soil borings and test pits.
58. Appendix D, Pages 9 and 12, Test Pit Report: Some reports are not completely filled out. Remarks and groundwater depth information is left out. All reports need to be completed to minimize errors in assumptions. If there are no comments/remarks for a particular field, then this needs to be stated as well.

Editorial Comments

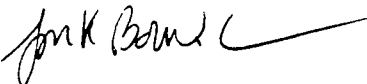
59. Page 4, fourth bullet: Since qualifying terms have been used in previous statements in this document, why not include one in this statement and say "Overland movement/transport of residual chemicals away from the immediate disposal areas of the site is apparently not occurring."
60. Page 5, first bullet: Refer to comment number 58. Why not state "Residual chemicals detected in ground water have apparently not reached the closest perennial discharge area...?"
61. Page 13, Figure 2.3: This figure needs a north directional arrow.
62. Page 14, Section 2.2.1 History, third and fourth sentences: These statements need to be referenced.
63. Page 15, top of page, second sentence: Change this sentence to read "A number of the drums were observed to be in a deteriorated condition with some of the drums leaking their contents to the environment."
64. Page 16, top of page, fifth sentence: The lagoons were backfilled, not "reportedly" backfilled. Is this sentence questioning whether the material used to backfill was actually clean fill or contaminated?
65. Page 19, Table 2.2: The date that the Sprouse well, "July 198, 1984", needs to be corrected.
66. Page 22, Section 2.2.5 Climate, first paragraph: The information provided in this paragraph needs to be referenced.
67. Page 23, Table 2.3: The acronym "ET" needs to be defined.

68. Page 28, Section 3.2.1 Objectives, second paragraph, third sentence:
This sentence is misleading. It implies that ten (10) soil samples were collected as part of Phase IA. On page 8, the sixth bullet under Section 2.1.2 Summary of Remedial Investigation Sampling and Analyses states that eight soil samples were analyzed for TCL and TAL contaminants.
69. Page 31, top of page, first line: Change the sentence that begins on the previous page to read "All samples collected during Phase IA were composited in accordance with the approved work plan."
70. Page 44, Section 3.7.1, first sentence: The aerial photographs and topographic maps referred to need to be referenced.
71. Page 64, Section 5.4 Soil Analyses: As done for Section 5.5 Ground Water Analyses, a reference should be made as to where all the soil data can be found (i.e., Appendix I).
72. Page 86, top of page: Soil boring SB-1 is located near a tilted area used for growing crops. Therefore, the statement that the absence of pesticides and related PCBs may result of differing land use is not truly appropriate.
73. Appendix I, Table I-1: Date on soils (Phase 1A Test Pits) collection for sample pit TP10 is 3/8/89 according to Test Pit Report and 3/7/89 according to Table I-1. This discrepancy needs to be corrected.

As stated earlier, all the above comments need to be addressed by the PRPs. And to keep this project on track, I would like to arrange a meeting to discuss these comments between the PRPs and SEC and SCDHEC and EPA. Please let me know which day of the week of May 28 is suitable. Presently, I anticipate holding this meeting in EPA's office.

If you have any questions, please contact me at 347-7791.

Sincerely yours,



Jon K. Bornholm
Remedial Project Manager

cc: Elmer Akin, Health Assessment Officer
Mike Carter, ESD
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